C/007/039 Incoming
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Canyon Fuel Company, LLC
Dugout Canyon Mine
P.O. Box 1029
Wellington, Utah 84542

File in:
☐ Confidential
☐ Shelf
☒ Expandable
Date Folder 03/19/12 C/0070039
Incoming

March 15, 2012

Coal Regulatory Program
Utah Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Salt Lake City, UT 84114-5801

RE: Revision to Chapter 7 of M&RP to Address Changes in Water Monitoring to address Task No. 3946, Dugout Canyon Mine, Canyon Fuel Company, LLC, C/007/039, Carbon County, Utah

Dear Sirs:

Attached please find five copies of revisions to the water monitoring requirements in Chapter 7 of the M&RP. We are requesting to eliminate sampling of several springs and one surface water monitoring location. The reasons have been discussed within this letter and the text provided. In addition the "Hydrologic Monitoring" drawing has been revised.

In the five year mine plan both longwall panels and continuous miner panels are shown. The choice of which panels will be mined will be determined by the coal market over the next five year period. By the end of April 2012, the mine will complete longwall panels in Section 30 T13S R13E and park the longwall. Mining will then change to continuous miner development in portions of the NW1/4 of Section 25 T13SR12E, the NE1/4 of Section 26 T13SR12E and in the SE1/4 and E1/2SW1/4 of Section 23 T13SR12E. With the switch to "Development Mining" no subsidence is expected during or following the extraction of the coal in these areas since no pillar extraction is proposed. The panels being mine by continuous miner will be mined in 2012 and 2013.

Deficiency List Task No. 3946

R645-301-731.210
The permittee has decided to continue monitoring GW-11-2, because there are no other groundwater resources within the Price River Formation available for monitoring. Refer to Section 724.100, subheading "Price River Formation" page 13 of the approved permit for justification.

R645-301-731.210 and -220
The spring and surface monitoring locations proposed from removal from the monitoring plan are located in the following sections.

Spring	Location
200	Sec 28, T13S R13E
227	Sec 19, T13S R13E
259	Sec 20, T13S R13E
321	Sec 18, T13S R13E
322	Sec 22, T13S R13E

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Surface Water Monitoring Location
323 Sec 8, T13S R13E

Portions of the following sections will be undermined from 2012 through 2016, under the current mine plan.

Sec 13, T13S R12E S1/2, S1/2N1/2
Sec 14, T13S R12E
Sec 22, T13S R12E N1/2
Sec 23, T13S R12E SE1/4 and E1/2SW1/4
Sec 25, T13S R12E NW1/4
Sec 26, T13S R12E NE1/4
Sec 18, T13S R13E W1/2W1/2
Sec 30, T13S R13E

In comparison none of the springs or the surface water monitoring locations proposed for removal from the monitoring plan are within the same sections as those where mining is planned for the next five years. Except for Spring 321 which is on the extreme eastern edge of Section 18, while the mining planned is on the extreme western edge of Section 18. Spring 321 is also outside our permit and lease boundaries.

Mining ceased in the area of the following springs in:

200 Sec 28, T13S R13E – Never mined near spring or in Section 28
227 Sec 19, T13S R13E – 2006 - 2007
259 Sec 20, T13S R13E – 2007 - 2008
321 Sec 18, T13S R13E – Never mined near spring
322 Sec 22, T13S R13E – Never mined near spring

Surface Water Monitoring Location
323 Sec 8, T13S R13E - Never mined near surface monitoring location

For subsidence monitoring near springs 227 and 259, see 2006 – 2010 annual reports on file at the DOGM office in Salt Lake City, Utah. Panel Gil 5 difference in feet attributed to subsidence from beginning of mining to completion of monitoring (considered stable) was -0.64 feet and Panel Gil 6 difference in feet from beginning of mining to completion of monitoring was -0.86 feet. The changes for the subsidence monitoring sites are documented in the annual reports.

Additional Spring/Seep Survey
The area proposed for mining by the permittee has had multiple seep and spring surveys completed by a variety of consulting firms at the locations shown on Plate 7-1 of the approved SMCRA permit. Sources for these surveys include the 1986 U.S. Geological Survey Report, Hydrology of the Price River Basin, 1993 EIS Survey (BLM), 1994 Alkali Creek Spring and Seep Survey (BLM), 1995 Mayo and Associates Survey, 1980 Hydrologic Inventory Report (Vaughn Hansen Associates), 1995 Seep and Spring Survey (Earthfax Engineering), 1980 Hydrology Survey (Eureka Energy Company, PG&E), including the annual report and permits for Soldier Creek Coal Company, Sage Point Coal, and Dugout Canyon Mine.

A review of the Utah Division of Water Rights database shows that of the water right within the sections listed below one is an underground right (Canyon Fuel Company), three are surface location rights (Canyon Fuel Company) and nine are point to point rights (1-Canyon Fuel Company,

3-BLM, 5-Thayn). There are no water rights associated with seeps or springs in the sections to be mined in 2012 through 2016.

Springs 227, 200 and 322 are in the area of point to point water rights, but there is no water right attached to the springs themselves. Surface water monitoring location 323 is in a stream whose length has point to point water rights assigned to it.

The permittee's understanding of the request to "identify potential hydrologic resources that may require monitoring prior to coal mining" is that the areas intended for mining under our current mining plan must be resurveyed. By reviewing the information listed above and more extensively the information currently within the approved permit, we do not feel there is a need for an additional seep and spring survey because the sections listed below have been surveyed multiple times over the years including during the more extensive monitoring completed in 2011 associated with the high flow requirement in the mine's permit.

Sec 13, T13S R12E S1/2, S1/2N1/2
Sec 14, T13S R12E
Sec 22, T13S R12E N1/2
Sec 23, T13S R12E SE1/4 and E1/2SW1/4
Sec 25, T13S R12E NW1/4
Sec 26, T13S R12E NE1/4
Sec 18, T13S R13E W1/2W1/2
Sec 30, T13S R13E

If the intent of the requested seep and spring survey is to justify the elimination of the requested monitoring locations, the permittee feels that sufficient information has been provide for the Division to agree or disagree with the elimination of the monitoring locations.

If you have any questions please call me at (435) 636-2869.

Sincerely yours,

Vicky S. Miller

cc: Dave Spillman

APPLICATION FOR COAL PERMIT PROCESSING

Permit Change ☒ New Permit ☐ Renewal ☐ Exploration ☐ Bond Release ☐ Transfer ☐

Permittee: Canyon Fuel Company, LLC
Mine: Dugout Canyon Mine **Permit Number:** C/007/039
Title: Revisions to Chapter 7 of the M&RP to Address Changes in Water Monitoring, Task ID #3946
Description, Include reason for application and timing required to implement:

Instructions: If you answer yes to any of the first eight (gray) questions, this application may require Public Notice publication.

☐ Yes ☒ No 1. Change in the size of the Permit Area? Acres: _____ Disturbed Area: _____ ☐ increase ☐ decrease.
☐ Yes ☒ No 2. Is the application submitted as a result of a Division Order? DO# _____
☐ Yes ☒ No 3. Does the application include operations outside a previously identified Cumulative Hydrologic Impact Area?
☐ Yes ☒ No 4. Does the application include operations in hydrologic basins other than as currently approved?
☐ Yes ☒ No 5. Does the application result from cancellation, reduction or increase of insurance or reclamation bond?
☐ Yes ☒ No 6. Does the application require or include public notice publication?
☐ Yes ☒ No 7. Does the application require or include ownership, control, right-of-entry, or compliance information?
☐ Yes ☒ No 8. Is proposed activity within 100 feet of a public road or cemetery or 300 feet of an occupied dwelling?
☐ Yes ☒ No 9. Is the application submitted as a result of a Violation? NOV # _____
☐ Yes ☒ No 10. Is the application submitted as a result of other laws or regulations or policies?
Explain: _____
☐ Yes ☒ No 11. Does the application affect the surface landowner or change the post mining land use?
☐ Yes ☒ No 12. Does the application require or include underground design or mine sequence and timing? (Modification of R2P2)
☐ Yes ☒ No 13. Does the application require or include collection and reporting of any baseline information?
☐ Yes ☒ No 14. Could the application have any effect on wildlife or vegetation outside the current disturbed area?
☐ Yes ☒ No 15. Does the application require or include soil removal, storage or placement?
☐ Yes ☒ No 16. Does the application require or include vegetation monitoring, removal or revegetation activities?
☐ Yes ☒ No 17. Does the application require or include construction, modification, or removal of surface facilities?
☒ Yes ☐ No 18. Does the application require or include water monitoring, sediment or drainage control measures?
☒ Yes ☐ No 19. Does the application require or include certified designs, maps or calculation?
☐ Yes ☒ No 20. Does the application require or include subsidence control or monitoring?
☐ Yes ☒ No 21. Have reclamation costs for bonding been provided?
☐ Yes ☒ No 22. Does the application involve a perennial stream, a stream buffer zone or discharges to a stream?
☐ Yes ☒ No 23. Does the application affect permits issued by other agencies or permits issued to other entities?

Please attach four (4) review copies of the application. If the mine is on or adjacent to Forest Service land please submit five (5) copies, thank you. (These numbers include a copy for the Price Field Office)

I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments, undertakings, and obligations, herein.

David Spillman
Print Name

David Spillman, Engineering Manager 3/01/12
Sign Name, Position, Date

Subscribed and sworn to before me this 1st day of March, 2012

Kathleen Widner
Notary Public

My commission Expires: 8-3, 2014

Attest: State of Colorado } ss:
County of Mesa

KATHLEEN WIDNER
Notary Public
State of Colorado

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APPLICATION FOR COAL PERMIT PROCESSING
Detailed Schedule Of Changes to the Mining And Reclamation Plan

Permittee: Canyon Fuel Company, LLC
Mine: Dugout Canyon Mine **Permit Number:** C/007/039
Title: Revisions to Chapter 7 of the M&RP to Address Changes in Water Monitoring, Task ID # 3946

Provide a detailed listing of all changes to the Mining and Reclamation Plan, which is required as a result of this proposed permit application. Individually list all maps and drawings that are added, replaced, or removed from the plan. Include changes to the table of contents, section of the plan, or other information as needed to specifically locate, identify and revise the existing Mining and Reclamation Plan. Include page, section and drawing number as part of the description.

			DESCRIPTION OF MAP, TEXT, OR MATERIAL TO BE CHANGED
☐ Add	☐ Replace	☐ Remove	Chapter 7
☐ Add	☒ Replace	☐ Remove	Section 724.100, Page 7-24
☐ Add	☒ Replace	☐ Remove	Section 731.200, Page 7-52, 7-53 and 7-57 (see note below)
☐ Add	☒ Replace	☐ Remove	Tables 7-4 and 7-5, first page of each
☐ Add	☒ Replace	☐ Remove	Plate 7-1, Hydrologic Monitoring Stations
☐ Add	☐ Replace	☐ Remove	
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Any other specific or special instruction required for insertion of this proposal into the Mining and Reclamation Plan.

3/2012 - These revision are in Chapter 7 of the M&RP. Due to the additional text required to explain the request for removing the monitoring obligation, the pagination will drastically change. Upon final approval we will most likely submit the entire chapter.

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CHAPTER 7
HYDROLOGY

determination of the most probable recharge area is possible using existing geologic, hydrogeologic, and topographic information. A discussion of the most probable recharge areas for springs in the expansion area is presented below.

~~Two springs (260 and 260A) have been identified within the boundaries of the expansion area that has the possibility of being impacted by subsidence.~~ The Division of Water Rights (DWRi) has identified ~~other~~ springs located in the north and eastern portions of Section 17, T 13 S R 13 E. ~~and within the permit expansion area.~~ However, two of ~~these~~ springs as located by the DWRi were not found in the original seep and spring survey or subsequent surveys done by Dugout. Dugout ~~has~~ committed to take the water right owners (Conover's) to the DWRi mapped locations to verify whether or not these springs do indeed exist. The water right owners were contacted and they met with mine personnel in the summer of 2008, the springs they associate with their water rights are identified on Plate 7-1 as 324, 260A, 261, 262 and 262A. No other springs were located or identified by water right holders.

A few other springs, 261, 262, 262A, 263, 263A, have been identified in the nearby surrounding areas outside the permit area. These springs are outside the area where subsidence would potentially occur and are separated from the underlying coal seams by more than 2,000 feet of cover. Mining impacts to the recharge area of these springs will only occur in a very small portion of the recharge area and will likely be similar to spring 260. Because of this, the impacts to the springs outside the permit and subsidence area have not been considered individually. The potential for impacting these springs is considered negligible.

Spring 260 is part of the mine's water monitoring program and thus has several years of data that can be analyzed. Spring 260A is not part of the water monitoring program. Both springs appear to discharge from the same shallow groundwater system as they are in close proximity to one another and discharge at similar elevations. Therefore, it is assumed that mining induced impacts to these two springs would be similar in nature.

Spring 260 discharges from the east side of the canyon wall near the bottom of the local surface-water drainage. The spring discharges from the Colton Formation at an elevation of about 8600 feet above sea level. Because groundwater must recharge in an area topographically higher

200	North Horn
203	North Horn
227	Castlegate Sandstone
259	North Horn
260	Colton
259A	Colton
321	Colton
322	Colton - Operational quarterly flow measurements only
324	Colton - Monitoring begins 3rd Quarter 2008

Locations of these springs are noted on Plate 7-1.

With the addition of 240 acres associated with Federal Coal Lease U-07064-027821, groundwater monitoring location 324 associated with existing water rights identified by an authorized representative of the Conover Trust was added in the third quarter of 2008.

The purpose of monitoring the above-listed springs will be to assess potential impacts to groundwater systems overlying the Blackhawk Formation due to subsidence and mine dewatering. Springs have been selected for monitoring in the Colton, Flagstaff, North Horn, and Castlegate Sandstone Formations. These springs are reasonably accessible and, based on the historical data, are representative of conditions within their respective formations.

The monitoring of springs 321, 322, 200, 227 and 259 was discontinued after the sampling in the 1st quarter of 2012. Should subsidence due to mining activities have the potential to impact springs 321, 322 and 200, monitoring will be reinstated no less than on year prior to subsidence. Spring 227 and 259 have been mined beneath and subsided and therefore will not be reinstated for monitoring.

- Springs 321 and 322 are located outside of the current permit and lease boundary and were not mined near or beneath, thus being outside the influence of mining. Springs 321 and 322 were incorporated into the monitoring program in 2008 to provide monitoring locations

outside the area of influence to establish a baseline. In 2010 the northernmost panel within the permit boundary was sealed and mining moved to the south approximately three miles.

- Spring 200 has been monitored since 1999. Between 1999 and 2011, the spring has had flow 6 times in 13 years, 1999 had three flows, 2000 had one flow, 2001 had one flow and 2004 had one flow. There has been no flow at Spring 200 since May 2004. No mining has or is planned to occurred near or beneath Spring 200.

- Spring 227 has been monitored since 1999. Between 1999 and 2011, the spring has had flow twice in 13 years, once in 2004 and once in the second quarter of 2011. Mining occurred beneath Spring 227 in 2006, the mined panel was sealing in 2006/2007. Subsidence information for the area is located in the annual reports for the corresponding years.

- Spring 259 has been monitored since 1999. Between 1999 and 2011, the spring has flowed 8 times in 13 years, four times in 1999, twice in 2000 and twice in 2001. Spring 259 has been dry since the samples in 2001. Mining occurred beneath Spring 259 in 2007, the mined panel was sealing in 2007/2008. Subsidence information for the area is located in the annual reports for the corresponding years.

It should be noted that reliable data have been difficult to collect from the limited number of springs issuing from the Blackhawk Formation within the permit and adjacent areas. As a result, no springs issuing from this formation have been included in the long-term monitoring program.

The ground water monitoring and sampling protocols to be implemented are described in Table 7-4. These protocols are based on the probable hydrologic consequences (PHC) of mining as presented in Section 728 and Appendix 7-3 of this M&RP and the requirements put forth in the Division's regulations. Table 7-4 is the same as that presented in Coal Regulatory Program Directive Tech-004, with the exception that total hardness and total alkalinity are not included. Total hardness, which is primarily of concern in water supplies being developed for domestic use, was not added to the list because summer-home development of the permit area is not an identified post-mining land use. Total alkalinity was not added to the list because the baseline data

Protocols for surface-water monitoring within the permit and adjacent areas are:

- DC-1, FAN, PC-3 - Quarterly data collection in accordance with Table 7-5 (operational parameters). This table is the same as that presented in Coal Regulatory Program Directive Tech-004, with the exception that total hardness and total alkalinity are not included. As explained above, total hardness, which is primarily of concern in water supplies being developed for domestic use, was not added to the list because summer-home development of the permit area is not an identified post-mining land use. Total alkalinity was not added to the list because the baseline data indicate that acid-generating materials, which may affect the alkalinity of the water, are not present within the permit and adjacent areas.

- DC-2, DC-3, PC-1a, PC-2, and RC-1 - Quarterly data collection in accordance with Table 7-5. Collection of gain-loss hydrograph data during the first wet year and the first dry year following permit issuance. Wet and dry years will be defined as noted in the previous groundwater monitoring discussion. The hydrograph will be generated by collecting flow measurements during the first wet year and the first dry year on a weekly basis between April 1 and August 31 as conditions permit. Refer to Appendix 7-13 for hydrographs.

- DC-4 and DC-5 - Collection of gain-loss hydrograph data during the first wet year and the first dry year following permit issuance, as described above. Collect flow measurements during the first wet year and the first dry year on a weekly basis between April 1 and August 31 as conditions permit. Samples will also be collected for laboratory analyses during the first wet year and the first dry year following permit issuance. Wet and dry years will be defined as noted above. These samples will be collected during the high-flow and low-flow seasons. The samples will be analyzed for tritium and the operational parameters contained in Table 7-5. Refer to Appendix 7-13 for hydrographs.

- 323 - Quarterly data collection in accordance with Table 7-5. Monitoring site 323 was incorporated into the monitoring program in 2008 to provide a monitoring location **outside** the area of influence to establish a baseline. Mining never occurred near or beneath the site. In 2010 the northernmost panel within the permit boundary was sealed and mining moved to the south approximately three miles. Sampling of site 323 was discontinued following the 1st quarter of 2012 sampling.

TABLE 7-4
Groundwater Monitoring Program
Field and Laboratory Measurement Protocol

Monitoring Wells	Protocol	Comments
GW-10-2	A, 1	Screened in Castlegate Sandstone
GW-11-2	A, 1,	Screened in Price River Formation
GW-24-1	A, 1	Screened in Castlegate Sandstone
Springs		
SP-20 (S-30)	B, 2, 5	Flagstaff
SC-14	B, 2, 5	North Horn
SC-65	B, 2, 5	Colton
SC-100	B, 2, 5	Flagstaff (at North Horn FM. Contact)
SC-116	B, 3, 5	North Horn
200	B, 3, 5, D	North Horn
203	B, 3, 5	North Horn
227	B, 3, 5, D	Castlegate Sandstone
259	B, 3, 5,D	North Horn
259A	B	Colton
260	B, 3, 5	Colton
MD-1	C, 4	Gilson Seam Workings Discharge
321	B,6, D	Colton
322	B, D	Colton
324	B,6 *	Colton

Protocols

A	Monitoring well: quarterly water level measurement only
B	Spring: quarterly flow measurements
C	Mine Water Discharge, abandoned Gilson Seam workings: quarterly flow measurements
D	Discontinued Monitoring after 1st Quarter 2012

Water quality

1	Monitoring well: No quality measurements.
2	Spring: quarterly operational groundwater quality parameters for two years beginning 3rd quarter 1999 after which quarterly field measurements only.
3	Spring: quarterly baseline parameters for three years beginning 1st quarter 1999 after which quarterly field measurements only.
4	Mine water discharge: quarterly operational water quality parameters.
5	During wet or dry years (as described in the PHC, Appendix 7-3), flows will be taken weekly between April 1 and August 31 as conditions permit. Also during the first wet or dry year, one operational laboratory sample and one Tritium sample will be obtained at these sites during high and low flow season (requirement completed in 2011).
6	Spring: quarterly operational groundwater quality parameters for two years beginning 3rd quarter 2007 after which field measurements only. * At site 324 quarterly operation ground water quality parameters for two years beginning 3rd quarter of 2008, after which field measurements only.

Groundwater Quality Parameters

FIELD MEASUREMENTS	REPORTED AS
Water Level or Flow	Feet or gpm or cfs
pH	pH units
Specific Conductivity	μs/cm @ 25°C
Temperature	°C

TABLE 7-5

Surface Water Monitoring Program

Field and Laboratory Measurement Protocol

Streams	Protocol	Comments
DC-1	1	Located on Dugout Creek downstream of mine
DC-2	2	Located on Dugout Creek immediately upstream of mine on left-hand fork
DC-3	2	Located on Dugout Creek immediately upstream of mine on right-hand fork
DC-4	3	Located on Dugout Creek upstream of mine on west fork of left-hand fork
DC-5	3	Located on Dugout Creek upstream of mine on east fork of left-hand fork
PC-1a	2	Located on Pace Creek on the eastern edge of State Coal Lease ML 48435-OBA
PC-2	2	Located on Pace Creek on the western edge of State Coal Lease ML 48435-OBA
PC-3	1	Located on Pace Creek in Section 20, T13S R13E
RC-1	2	Located on Rock Creek on the southern edge of State Coal Lease ML 48435-OBA
FAN	1	Located on Pace Creek above fan facilities
323	1, 4	Located in SE1/4,SW1/4,SE1/4 of Section 8, Township T13S, R13E

Protocols

1 Stream: quarterly operational surface water quality measurements analyzed as per parameters listed below.

2 Stream: quarterly operational surface water quality measurements analyzed as per parameters listed below except during first wet or dry years when weekly flow will be obtained from April 1 through August 31, as conditions permit (requirement completed in 2011) , in addition to quarterly samples.

3 Stream: weekly flow measurements during first wet or dry year will be obtained from April 1 through August 31 as conditions permit. Also during the first wet or dry year, one operational laboratory sample and one tritium sample will be obtained at these sites during high and low flow season (requirement completed in 2011).

4 Discontinued Monitoring after 1st Quarter 2012

Surface Water Quality Parameters

FIELD MEASUREMENTS	REPORTED AS
Flow	gpm or cfs
pH	pH units
Specific Conductivity	μs/cm @ 25°C
Dissolved Oxygen	mg/l
Temperature	°C